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Biotechnology Notes

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Biotechnology Notes, a compilation of agency activities, news events, and upcoming meetings, is prepared for members of the U.S. Department of Agriculture's (USDA) Committee on Biotechnology in Agriculture (CBA) by USDA's Office of Agricultural Biotechnology (OAB).

INSIDE USDA

POTATOES GET BRUISES, TOO

Peaches, pears, and tomatoes aren't the only crops that get injured when harvested, processed, or invaded by bacteria: potatoes also get bumped and thumped. This is a serious problem for the potato industry, especially for those who process potato chips and frozen French fries, with losses estimated at millions of dollars a year. But now the tools of biotechnology may mark a new era in improving the post-harvest quality of potatoes.

William Belknap, a researcher at USDA's Agricultural Research Service (ARS) in Albany, California is working closely with a potato breeding program in Aberdeen, Idaho to develop bruise-resistant potatoes. Idaho researcher Dennis Corsini and his co-workers found that bruising is related to the amount of tyrosine in potatoes, and that tubers with high levels bruise easily.

Using the tools of biotechnology, Belknap built a gene he hopes will lower the tyrosine level and inserted it into russet potatoes. Greenhouse tests have shown that the gene is properly expressed.

Several thousand tubers will be field tested this month under permits issued by USDA's Animal and Plant Health Inspection Service (APHIS). The crops will be harvested in the Fall and then followup studies will begin.

CONSUMER AWARENESS TOPS BIOTECH COUNCIL AGENDA

USDA's Biotechnology Council has been directed to develop recommendations for a plan to communicate with consumers about biotechnology. Such recommendations may incorporate food safety, labeling, and other issues relevant to consumers of products produced through biotechnology. Ann Chadwick, USDA Consumer Advisor, will join the Council to assist with this effort.

The request was initiated by Jo Ann Smith, Assistant Secretary for Marketing and Inspection Services, and Charles Hess, Assistant

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Secretary for Science and Education, both of whom co-chair the Council's parent organization, the Committee on Biotechnology in Agriculture (CBA). The recommended plan is due September 1, 1991 and will be presented to the Secretary of Agriculture after being reviewed by CBA members.

BIODIVERSITY: OUR FOOT HOLD TO THE FUTURE

A hefty price is often paid for the rewards of living in modern times. One is the loss of genetic and biological variety in living organisms. Habitat destruction is especially severe in the tropics where the largest number of different species -- plants, insects, and vertebrate animals -- make their home.

To help sustain the biodiversity in these regions, the United Nations Environment Programme (UNEP) has formed a group on biodiversity conservation, which met in Nairobi, Kenya earlier this year. Val Giddings, senior geneticist with USDA's APHIS, Biotechnology, Biologics, and Environmental Protection Unit, participated as a member of the U.S. delegation, along with representatives from 70 other nations.

The group is considering the most effective form a treaty might take in order to help conserve biodiversity. Its deliberations include an examination of the role biotechnology might play. UNEP hopes to have a draft treaty to present to the United Nations Conference on Environment and Development (UNCED) in Brazil in 1992.

YOUNG IN CAIRO FOR U.N. MEETING

Alvin Young, Director of the Office of Agricultural Biotechnology (OAB), represented USDA in Cairo, Egypt, April 21-26, at a United Nations meeting of the World Food Council's Interregional Consultations on "Meeting the Food Production Challenges of the 1990's and Beyond." Young said agricultural biotechnology will offer many opportunities to third world countries that are entering the biotechnology arena. One of the stiffest challenges, he said, will be technology transfer, that is, moving the benefits of the new technology from the laboratory to the producer. He added that technology transferred from different sources, i.e., industry, academia, or government, may require different avenues of transfer.

IRISH DIRECTOR VISITS USDA

Barry McSweeney, Executive Director of BioResearch Ireland (see January 1991 issue of *Biotechnology Notes*), visited USDA, April 11, to brief USDA officials on BioResearch Ireland's programs and to discuss possible joint activities in biotechnology. Areas of

collaboration could include a workshop on applying the new tools of biotechnology to solve fish disease problems in aquaculture production, ways to improve public communication, and curricula development for elementary and secondary school students.

McSweeney's visit included talks with John Patrick Jordan, Administrator of USDA's Cooperative State Research Service (CSRS), and other senior USDA officials, as well as a review of plant and animal biotechnology research programs at the Beltsville, MD research facility, and a briefing on technology transfer activities and research information databases.

HOT OFF THE PRESS

About 100 people gathered at the Marriott Hotel in Washington, DC, April 9, to receive copies of the new publication, *Agricultural Biotechnology: Issues and Choices*, and to meet the more than a dozen authors who contributed to the work. Published in two parts, the main body is a reference source on the socioeconomic aspects of agricultural biotechnology and covers many topics including food safety issues, environmental risks, regulations, ethics, and public perceptions. The second part is a series of brief leaflets which summarize each chapter in the basebook and can be used as handouts for the general public.

The publications were commissioned by the Committee on Biotechnology, Division of Agriculture, National Association of State Universities and Land Grant Colleges and supported in part under a cooperative agreement with USDA's CSRS.

For information about ordering copies, contact the Purdue University Agricultural Experiment Station, 116 Agricultural Administration Bldg., Purdue University, West Lafayette, IN 47907.

AT YOUR SERVICE

Whether you need a quick, complimentary search on a specific biotechnology topic or an exhaustive review of major databases, the National Agricultural Library's Biotechnology Information Center can fill the bill. Located in Beltsville, MD, the Center provides easy access to a variety of information services and publications covering many aspects of biotechnology for business, research, and study. Such topics range from the theory and techniques of genetic engineering to biomass applications, risk assessment, food processing, and bioethics. To learn more about the Center's services, please call its Director, Robert Warmbrodt, at 301-344-3340.

NEWS AROUND THE NATION (AND THE WORLD)

BST OK, SAYS EC GROUP

The Committee for Veterinary Medicinal Products, an advisory body to the European Community (EC), has issued a favorable opinion on Monsanto's BST (bovine somatotropin) product. Although the favorable ruling clears the way for individual EC member nations to approve the product, the EC commission has extended a moratorium on BST use in the Community through 1991. The product has been approved in a number of non-EC member countries, such as the Soviet Union, Bulgaria, Czechoslovakia, Mexico, Brazil, South Africa, and Namibia.

PUERTO RICO LOOKS TO BIOTECHNOLOGY

To help improve the island's livestock production and lower its dependence on imported meat and milk, Puerto Rico is making a \$300,000 investment in biotechnology at Tufts University School of Veterinary Medicine. One top research priority is using transgenic technology to improve pig production and help offset the \$70 million spent annually to import pork. Another is an embryo transfer demonstration project set up in Puerto Rico to boost dairy herd production.

BIOTECH CENTER TO OPEN AT DAVIS CAMPUS

According to the April 1991 issue of *Genetic Engineering News*, a plant biotechnology research center will be established at the University of California at Davis through a 5-year grant of up to \$10.4 million from the National Science Foundation. Researchers from several institutions and from the private sector plan to use the tomato as a model to investigate plant diseases.

RESEARCH À LA FRANÇAISE

Most agricultural research in France is carried out under the auspices of INRA (Institut National de la Recherche Agronomique), which facilitates close collaboration between the research community and its industrial partners. INRA has 22 research centers located throughout France, Guyana, and Guadeloupe with a work force of nearly 8,400.

A few of the areas of concentration include biotechnological modification of milk composition, improvements in cheesemaking and ripening, veterinary diagnostic tests, fertilization techniques,

poultry farming, and maize cultivation. To learn more about INRA, call 16-1-42-75-91-69. The FAX number is 16-1-47-05-99-66.

IN CASE YOU WEREN'T THERE

- At a meeting held in Sacramento, Calif., March 12, on issues in agricultural biotechnology, participants emphasized that public perception of the facts is as important as the facts themselves when it comes to accepting ag biotech products in the marketplace. They also said benefits to the consumer, including cost effectiveness, must be demonstrated, and that the novelty of biotech approaches should not be touted as much as the benefits of the products. They said it is better that biotech be seen as "old hat" to the public than something new that could possibly pose unknown risks.
- "Food Safety, Health, and the Environment: The Greening of America's Diet" was the topic of a conference sponsored by Public Voice, a public interest group, March 27-28, in Washington, DC. According to Public Voice Executive Director Ellen Haas, there is a need to strengthen Federal pesticide regulations, help to pass stronger Federal seafood safety legislation with mandatory inspections, increase sampling for residues, establish microbiological standards for raw products, and encourage the marketing of lower fat foods.
- OAB Director Alvin Young presented a seminar at Texas A&M University, College of Veterinary Medicine, College Station, Texas, April 18. He highlighted the opportunities of the new tools of biology in animal science. He also visited the ARS's food animal protection research laboratory and reviewed an innovative joint research program on bovine disease resistance.

NEW PUBLICATIONS

- *Progressive Farmer*. Midwest Edition. March 1, 1991. This issue of the publication focuses on genetic developments in corn and soybeans in recent years. To receive a copy call 205-877-6000.
- *Plants, Power, and Profit: Social, Economic, and Ethical Consequences of the New Biotechnologies*, by Lawrence Busch, William Lacy, Jeffrey Burkhardt, and Laura Lacy. 1991. Inquiries about ordering a copy may be sent to Basil Blackwell Inc., 3 Cambridge Center, Cambridge, Mass 02142.
- *Biotechnology for All*. This is a new booklet soon available from the Association of Biotechnology Companies (ABC). According

to ABC, it explains in simple language the impact of biotech advances on medicines, diagnostic tests, improved crop plants and farm animals. It is written for students aged 12 and over and for the general public. To receive a copy, call ABC at 202-234-3330.

- "Food Safety and Quality: Who Does What in the Federal Government." December 1990. Prepared by the General Accounting Office. To receive a copy of the 2-part report, please call 202-275-6241.
- Six papers on agricultural biotechnology that were presented at a symposia sponsored by the American Phytopathological Society appear in *Phytopathology*, Volume 81, Number 3, 1991.
- *Emerging Markets in Agriculture II*. Published by the Technology Management Group. 1991. \$95. For information about ordering, please call 203-786-5445. The FAX number is 203-786-5449.
- *Biotechnology of Amylodextrin Oligosaccharides*. Edited by B. Friedman. Published by the American Chemical Society. April 1991. ACS Symposium Series No. 458. \$84.95. May be obtained from your local bookseller or by calling 1-800-ACS-5558.
- Minutes of USDA's Agricultural Biotechnology Research Advisory Committee (ABRAC), November 26, 1990. This meeting focused on a summary of the public meetings held in September 1990, a summary of public comments on scope principles, a summary of APHIS activities, an update on the guidelines, and an update on the Auburn University transgenic fish experiment. To receive a copy, please call OAB at 703-235-4419. The FAX number is 703-235-4429.

UPCOMING MEETINGS

May 13-16: Fifth International Biotechnology Meeting. Washington, DC. Sponsored by the Association of Biotechnology Companies. For details call Richard Okiuye or Adi Niv at 202-234-3330.

May 14-15: "Capitalizing on CRADA's (Cooperative Research and Development Agreements): The New Currency for Technology Transfer." Conference to be held at Hyatt Regency, Crystal City, VA. Call Lissa Wilson at 202-662-9728.

May 16: "Environmental Issues in Biotechnology." A lecture given by Carol Green of Bryan, Cave, McPheeers and McRoberts at the monthly breakfast meeting of the Montgomery County Maryland High Technology Council in Gaithersburg, MD. The meeting begins at 8

a.m. For more details and to make a reservation, call the Council at 301-762-6325.

May 21: The Classification/Confinement Working Group meeting of USDA's ABRAC. Governor's House Holiday Inn, Cabinet Room, Rhode Island Avenue and 17th Street N.W., Washington, DC 20036. It is open to the public and begins at 9 a.m. until about 5 p.m. For more details, call either Alvin Young, OAB Director, or Daniel Jones, OAB Deputy Director, at 703-235-4419.

May 22-23: Meeting of USDA's ABRAC. Cabinet Room, Governor's House Holiday Inn, Rhode Island Avenue and 17th Street, N.W., Washington, DC. Meeting begins at 9 a.m. both days and adjourns at 5 p.m. on May 22 and at 3 p.m. on May 23. It is open to the public. For more details, please contact either Alvin Young or Daniel Jones at 703-235-4419.

May 29-31: Midwest Biotechnology Symposium '91: Biocatalysis and Bioseparation. University of Wisconsin, Madison. Call Jane Sherwood at 608-262-4652.

May 30-June 1: "Agricultural Biotechnology at the Crossroads: Biological, Social, and Institutional Concerns" is the title of the third annual meeting of the National Agricultural Biotechnology Council. Sacramento, CA. For details call the University of California Agricultural Issues Center at 916-752-2320.

June 2-4: International Industrial Biotechnology Conference. Montreal, Canada. Call 613-954-3042.

June 2-6: "International Symposium on Sweet Potato Technology for the 21st Century." Tuskegee, Alabama. Co-sponsored by USDA, the National Aeronautics and Space Administration, the Agency for International Development, EPCOT Center at Walt Disney World, and Tuskegee University. For details call 205-727-8333. The FAX number is 205-727-8493.

June 6-7: Patents, Licensing and Biotechnology Transfer. Santa Fe, NM. Call 314-882-4105.

June 9-15: Achema '91: 23rd International Meeting on Chemical Engineering and Biotechnology. Frankfurt am Main, Germany. Call 069-75-64-242.

June 24-26: Biologics '91: Second International Biotechnology Conference. Baltimore, MD. Cosponsored by the State of Maryland and the Food and Drug Administration. Call Laura Kurie at 301-986-4886.

June 30-July 5: Conference on transgenic animals. Saxtons River, Vermont. Sponsored by the Federation of American Societies for Experimental Biology. For more information or an application form, call 301-530-7093.

July 6-10: Two joint events in the field of biotechnology will take place this week in Sao Paulo, Brazil, including "The First Latin-American Fair of Biotechnology," and "The Second Brazilian Fair of Biotechnology." For more details, write to Certame Eventos, Rua Mexico, 11 Sala 201, 20031 Rio de Janeiro, Brazil; or FAX inquiries to 021-240-8195 in Rio or 011-883-1918 in Sao Paulo.

July 18: "Research Opportunities in Biotechnology." Gaithersburg, MD. This is a panel discussion with representatives from the Maryland Biotechnology Institute, the University of Virginia, and the Pennsylvania Consortium of Universities. The meeting is sponsored by the Montgomery County Maryland Hi-Tech Council Inc. To make a reservation call 301-762-6325.

July 21-26: Gordon Conference on Applied Environmental Microbiology. Colby-Sawyer College, NH. Registration forms are available from The Gordon Research Conferences, University of Rhode Island, Kingston, RI 02881-0801.

Aug. 29-31: Second International Conference of the Release of Genetically Engineered Microorganisms. University of Nottingham, England. For details write to SGM Meetings Office, 62 London Road, Reading RG1 5AS, United Kingdom.

Biotechnology Notes is prepared by Marti Asner, public affairs specialist in USDA's Office of Agricultural Biotechnology. Suggestions for items to include in future issues are always appreciated and may be sent to USDA/OAB, Room 1001, Rosslyn Plaza East, 1621 N. Kent Street, Arlington, VA 22209. The OAB can be reached at 703-235-4419 or by FAX at 703-235-4429.